Prevalence of Irritable Bowel Syndrome, Functional Dyspepsia and their Overlap in Saudi Arabia

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ABSTRACT

Study Design: Cross sectional

Background: Functional gastrointestinal disorders (FGIDs) are a class of disorders that are identified and categorized based on symptoms because they lack a significant deviation from the normal histological, anatomical, and biochemical characteristics.

A chronic gastrointestinal illness called irritable bowel syndrome (IBS) is characterized by recurring stomach pain or discomfort linked to a changed bowel routine. Global research has determined that between 5 and 20% of people worldwide suffer from IBS. Gastroenterology clinics have received referrals for 30% to 50% of IBS patients. A thorough review of the patient's symptoms, a thorough history (including information about diet, medications, medical, surgical, and psychological history), an assessment of the patient for the presence of warning signs (such as "red flags" of anemia, hematochezia, unintentional weight loss, or a family history of colorectal cancer or inflammatory bowel disease), and a guided physical examination are all necessary to make the traditional diagnosis of IBS.

Methods: In Southern Saudi Arabia, IBS was targeted on all accessible groups using a descriptive cross-sectional strategy. Participants in the poll had to be Saudi citizens who were 18 years of age or older, had IBS, and resided in the Aseer region. Data collection was started after receiving approval from the institutional ethics committee. An electronic questionnaire that was already pre-structured was used to collect data from the participants. Between April and June 2021.

Results: Out of total 1622 respondents 55.49% were females while 44.51% were males 61.6% have 5-10 working hours ,23.3% were working in civil areas, 25.9% were from southern region, 83.2% were living in cities, 61.6% have income level 5000 to 15000SAR, 67.82% were nonsmokers 21.95 & 28.1% were suffering from DM and HTN respectively. We did not observe gender wise significance difference in the prevalence of IBS.

Conclusion: This is the first study to quantify the prevalence of IBS and FD, as well as the risk factors related with these disorders, in the Saudi city of Abha. Our findings are useful in bridging the epidemiological data gap Aseer region IBS, FD, and OS. Future research would allow for a better knowledge of the complicated biology of both disorders, as well as better management tailored to the risk factors associated.

Keywords: Functional gastrointestinal disorders, Irritable Bowel syndrome, Overlap, Patients, Quality

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INTRODUCTION

Functional gastrointestinal disorders (FGIDs) are a class of disorders that are identified and categorized based on symptoms because they lack a significant deviation from the normal histological, anatomical, and biochemical characteristics[1].

A chronic gastrointestinal illness called irritable bowel syndrome (IBS) is characterized by recurring stomach pain or discomfort linked to a changed bowel routine. Global research has determined that between 5 and 20% of people worldwide suffer from IBS. Gastroenterology clinics have received referrals for 30% to 50% of IBS patients. A thorough review of the patient's symptoms, a thorough history (including information about diet, medications, medical, surgical, and psychological history), an assessment of the patient for the presence of warning signs (such as "red flags" of anemia, hematochezia, unintentional weight loss, or a family history of colorectal cancer or inflammatory bowel disease), and a guided physical examination are all necessary to make the traditional diagnosis of IBS[2,3].

IBS can affect people of all ages and from all economic, social, and racial backgrounds. Globally, the epidemiology of diseases is changing gradually, which is a phenomenon. There are many other potential IBS diagnosis criteria. As a result, these differences in diagnostic criteria have a considerable impact on prevalence from one country to another. Additionally, there are no conclusive diagnostic tests or biomarkers, so the diagnosis is typically made clinically using criteria based on symptoms. IBS is more common in people under 50 years old and has a substantial female preponderance; its global incidence is 11.2%. According to a review of the literature, the prevalence has increased, with rates in the Arab World ranging from 8.9 to 31.8%. Particularly, there has been a significant increase in occurrence during the past ten years[4-7].

According to population-based studies, the prevalence of FD among IBS participants ranges from 29% to 87%, while the estimated prevalence of IBS among dyspeptic people ranges from 13% to 29%. These percentages exceed the prevalence rates for IBS and FD in the general population, which are believed to be roughly 10% and 20%, respectively. This would imply that the overlap is not just a coincidental occurrence of two states that are very common in humans[8]. As opposed to community series, patient-based series appear to have an even higher rate of overlap, with up to 87% of IBS patients also having concurrent FD and between 26% and 46% of FD patients having concurrent IBS. The main objective of this study is to find the Prevalence of Irritable Bowel Syndrome, Functional Dyspepsia and their Overlap in Saudi Arabia.

METHOD

In Southern Saudi Arabia, IBS was targeted on all accessible groups using a descriptive cross-sectional strategy. Participants in the poll had to be Saudi citizens who were 18 years of age or older, had IBS, and resided in the Aseer region. Data collection was started after receiving approval from the institutional ethics committee. An electronic questionnaire that was already pre-structured was used to collect data from the participants. Between April and June 2021, the researchers and their relatives posted the questionnaire online utilizing social media channels. After collection of data, data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and %s were computed), to measure the significance differences t-test and chi-square test was used at 5% level of significance. Ethical approval was obtained from King Khalid University, Saudi Arabia.

RESULTS

Cron bach alpha of the questionnaire was 0.85, out of total 1622 respondents 55.49% were females while 44.51% were males 61.6% have 5-10 working hours, 23.3% were working in civil areas, 25.9% were from southern region, 83.2% were living in cities, 61.6% have income level 5000 to 15000SAR, 67.82% were nonsmokers 21.95 & 28.1% were suffering from DM and HTN respectively.

Table 1: Demographic variables

Demographic variables		Frequency	%
Gender	Male	900	55.49%
	Female	722	44.51%
Working hours	Less than or equals to 5 hours	400	24.66%
	5-10 hours	1000	61.65%
	above 10 hours	222	13.69%
Professional sector	Medical	156	9.62%
	Military	175	10.79%
	Education	200	12.33%
	Student	356	21.95%
	Civil	378	23.30%
	Unemployed	159	9.80%
	Others	259	15.97%
Region	Central region	272	16.77%
	Western region	250	15.41%
	Eastern region	358	22.07%
	Southern region	421	25.96%
	Northern region	321	19.79%
Live	City	1350	83.23%
	Village	272	16.77%
Marital Status	Married	650	40.07%
	Single	900	55.49%
	Widowed/Divorced	72	4.44%
Monthly income	less than 5000 SAR	289	17.82%
	5000 SAR to 15000 SAR	1000	61.65%
	Above 15000 SAR	333	20.53%
Smoking Status	Non Smokers	1100	67.82%
	Smokers	400	24.66%
	Ex-smokers	122	7.52%
Chronic Diseases	DM	356	21.95%
	HTN	456	28.11%
	Others	300	18.50%
	None	510	31.44%

As per table 2, 43.16% have been labeled as IBS, 56.84% have never observed any abdomen in the last 03 months, 55.49% have never observed the pain.

As per table 3, in response of the question in the last 3 months, how often did you feel full after a regular-sized meal 56.6% opted never, in response of the question Has it been 6 months longer since you started having these episodes 73.98% opted yes, in the reply of the question in the last 3 months, how often were your unable to finish a regular-sized meal because you felt it full? 56.41% opted never, in response of the question Has it been 6 months or longer since you started having this pain or burning in the middle part of your upper abdomen? 67.82% opted yes.

As per figure 1, 45% noticed the changes in their appetite,35% felt lose weight, 26% noticed blood in stool, 45% have abdominal pain one day / week.

Table 2: Items related to IBS

Items related to IBS		Freq.	%
Have you ever been labeled as Irritable Bowel Syndrome?	Yes	700	43.16%
	No	922	56.84%
Any positive family history of Irritable Bowel Syndrome (mother, father or sibling)?	Yes	650	40.07%
	No	972	59.93%
In the last 3 months, how often did you have pain anywhere in your abdomen?	Never	922	56.84%
	Less than one day a month	171	10.54%
	One day a month	185	11.41%
	Two to Three days a month	130	8.01%
	Once a week	75	4.62%
	Twice or Thrice a week	48	2.96%
	Most day	55	3.39%
	Almost every day	24	1.48%
	Multiple time per day or all the time	12	0.74%
How often did this pain in your abdomen happen in association with time to bowel movement -- just before ,during ,or soon after ?(percent of times with pain)	Never	900	55.49%
	10%	198	12.21%
	20%	150	9.25%
	30%	100	6.17%
	40%	85	5.24%
	50%	25	1.54%
	60%	39	2.40%
	70%	45	2.77%
	80%	22	1.36%
	90%	29	1.79%
	100%	29	1.79%
How often did your stools become either softer than usual or harder than usual during episode of pain? (Percent of times with pain)	Never	911	56.17%
	10%	187	11.53%
	20%	100	6.17%
	30%	150	9.25%
	40%	25	1.54%
	50%	85	5.24%
	60%	45	2.77%
	70%	39	2.40%
	80%	29	1.79%
	90%	22	1.36%
	100%	29	1.79%
How often did your stools become either more frequent than usual or less frequent than usual during episode of pain? (Percent of times with pain)	Never	922	56.84%
	10%	177	10.91%
	20%	150	9.25%
	30%	100	6.17%
	40%	35	2.16%
	50%	75	4.62%
	60%	35	2.16%
	70%	49	3.02%
	80%	22	1.36%
	90%	29	1.79%
	100%	28	1.73%
Bowel movements of Type 1 or 2 and also of Type 6 or 7	Usually diarrhea (like Type 6 or 7)	100	6.17%
	Both diarrhea and constipation	300	18.50%
	Not applicable	322	19.85%
Has it been 6 months or longer since you started having this pain?	Yes	925	57.03%
	No	697	42.97%

Table 3: Functional dyspepsia

Functional Dyspepsia: Rome IV		Freq.	%
In the last 3 months, how often did you feel full after a regular-sized meal ?	Never	918	56.60%
	Less than one day a month	126	7.77%
	one day a month	125	7.71%
	two to three days a month	259	15.97%
	once a week	74	4.56%
	two to three days a week	55	3.39%
	Most days	30	1.85%
	Every day	26	1.60%
	Multiple times per day	9	0.55%
Has it been 6 months longer since you started having these episodes	Yes	1200	73.98%
	No	422	26.02%
In the last 3 months, how often were you unable t finish a regular-sized meal because you felt it full?	Never	920	56.72%
	Less than one day a month	124	7.64%
	one day a month	123	7.58%
	two or three days a months	255	15.72%
	once a week	64	3.95%
	two or t three days a week	60	3.70%
	Most days	34	2.10%
	Every day	30	1.85%
	Multiple times per day r all the time	12	0.74%
Has it been 6 months or longer since you started having these episodes of feeling to full to finish regular-sized meals?	Yes	1172	72.26%
	No	450	27.74%
In the last 3 months, how often did you have pain are burning in the middle part of your upper abdomen	Never	915	56.41%
	Less than one day a month	142	8.75%
	one day a month	121	7.46%
	two to three days a month	255	15.72%
	once a week	71	4.38%
	two to three days a week	51	3.14%
	Most days	25	1.54%
	Every day	24	1.48%
	Multiple times per day	18	1.11%
Has it been 6 months or longer since you started having this pain or burning in the middle part of your upper abdomen?	Yes	1100	67.82%
	No	522	32.18%

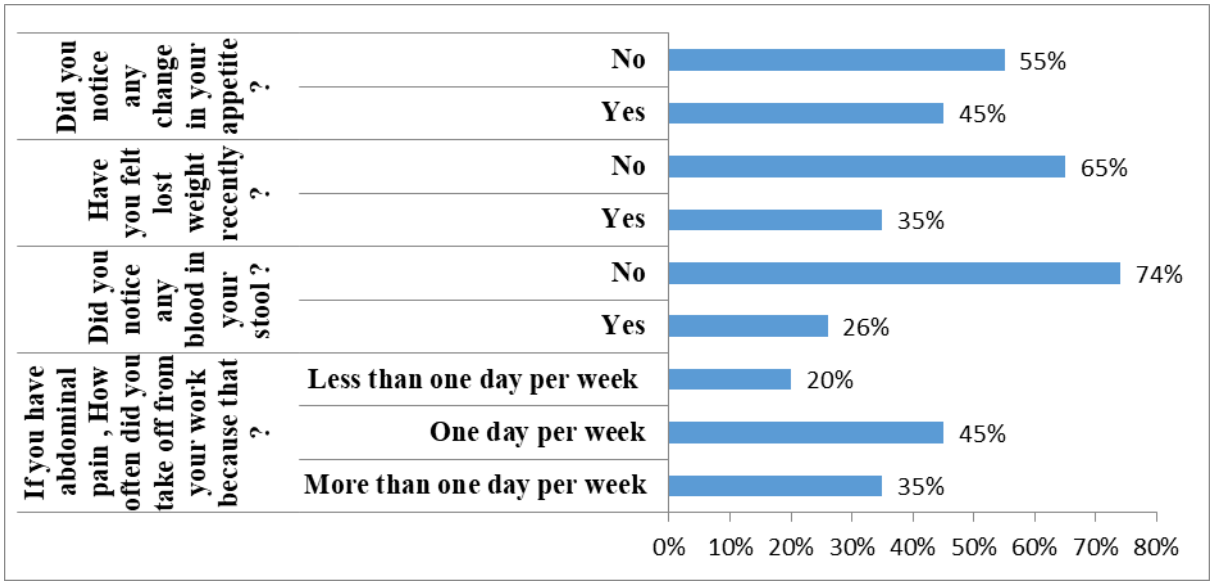

Figure 1: Change in appetite

Table 4: Have you ever been labeled as Irritable Bowel Syndrome?

Have you ever been labeled as Irritable Bowel Syndrome?			
	Yes	No	Total
Male	346	554	900
Female	354	368	722
Total	700	922	1622

$p<0.05$

We did not observe any significant difference while comparing gender with prevalence of IBS.

DISCUSSION

This study is the first to estimate the prevalence of IBS, FD, and their OS in the Abha and evaluate the behavioral and demographic risk factors linked to these disorders It has already been reported that there is variance among the countries in the prevalence of IBS including genetics, cultural differences, ethnic diversity, social reporting sensitivity, levels of stress, and dietary habits. We believe that the differences found in this study are not due to a sampling bias to the methodology. However, in contrast of other studies we did not find any female and younger age predominance in IBS subjects, However, few studies have documented a higher prevalence in male patients Several hypotheses have been Irritable bowel syndrome and functional dyspepsia are currently thought to be two distinct nosological entities[9-12].

Both functional dyspepsia and irritable bowel syndrome are reported to be extremely common in Western countries. Symptoms compatible with the definitions of irritable bowel syndrome and functional dyspepsia were present in 12% and 26% of the sample, respectively, and isolated diarrhoea, constipation, and heartburn were reported by 15-20% of subjects, according to community survey data from the United States. The prevalence estimates appear to vary depending on the stringency of the criteria used to determine disease status[13].

However, the overlap of symptoms and evidence of a number of shared pathophysiological features suggest that functional dyspepsia and irritable bowel syndrome may be different manifestations of the same disorder. suggested to describe the higher prevalence of IBS in females, based on the Rome III categorization, there have been several evaluations of the overlap between FD and IBS. conducted a cross-sectional study to compare the corresponding values in healthy controls in a Japanese health check-up population to the prevalences of gastroesophageal reflux, FD, and IBS, their overlap rates, and the health-related quality of life (HRQOL) for each disease and each overlap syndrome. 269 (10.0%) of the 2,680 eligible patients had FD diagnoses, while 381 (14.2%) had IBS diagnoses. In 92 cases, overlaps between FD and IBS were discovered[14-16].

Irritable bowel syndrome and functional dyspepsia can also run in families. 30, 31 A first-degree relative with abdominal pain or bowel problems was significantly associated with the reporting of irritable bowel syndrome [odds ratio (OR), 2.3; 95% confidence interval (CI), 1.3-3.9] and dyspepsia (OR, 1.8; 95% CI, 1.05-3.0) in a community survey[10-12].

CONCLUSION

This is the first study to quantify the prevalence of IBS and FD, as well as the risk factors related with these disorders, in the Saudi city of Abha. Our findings are useful in bridging the epidemiological data gap Aseer region IBS, FD, and OS. Future research would allow for a better knowledge of the complicated biology of both disorders, as well as better management tailored to the risk factors associated with IBS and/or FD. Patients with either FD or IBS have less severe symptoms overall, and patients with overlap may represent the more severe end of the FD or IBS spectrum. The implications of FD and IBS overlap for patients' long-term outcomes and response to therapies, including response in clinical trials, must be investigated.

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Potential Conflict of Interest: None

Competing Interest: None

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